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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/594,229	12/26/2007	Luis Miguel Moreira Guardao	Q97432	7121

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EXAMINER

SINGH, KAVEL

ART UNIT	PAPER NUMBER
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3651

NOTIFICATION DATE	DELIVERY MODE
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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/594,229	Applicant(s) MOREIRA GUARDAO ET AL.	
	Examiner KAVEL P. SINGH	Art Unit 3651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-32 is/are rejected.
- 7) ☒ Claim(s) 21,23,24,26-28,30,31 and 33 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a) because they fail to show Compound Movement Cell (Cmc), the work stations (P0048 includes ref. Number 20, is that the label?), and E1--waiting 1`, `E2--waiting 2` and `AT--Post Work (P0055) as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d).

The drawings are objected to because the drawings are not clear and the details are not clearly depicted (look like photocopies). Sheet 8 has two drawings, but one is labeled Figure 8, are both drawings associated with Figure 8? Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If

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the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claims 18-32 are objected to under 37 CFR 1.75(i) as where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation.

Claims 21,23,24,26,27,28,30,31, and 33 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only and/or cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims 21,23,24,26,27,28,30,31,and 33 have not been further treated on the merits.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 18-32 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 18 and 21 disclose an electro pneumatic system (teaches pneumatic devices, but does not mention an electro pneumatic) and a three-axis manipulator (teaches a three level working area and claims Figure 8 shows a three axis associated manipulator) which is not found in the specification.

Claim 19 teaches association points which constitute locations where a material lot is associated which was not found in the specification.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 18-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

For example, claim 18 reads a distribution and temporary storage system of transport units formed by a matrix conveyor, characterised in that **it** is a ranked aggregation of individual movement cells, it is unclear of the term **it** is in reference to in the claim.

Another example in claim 18 is the term them in the sentence an elevating system which will position them below in is ambiguous and indefinite.

Claim 18 recites the limitation "the gap" in line 5. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

As best understood, Claims 18-20,22,25,29, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang U.S. Patent No. 6,005,211 in view of Bachrach U.S. Patent No. 5,957,648.

Claim 18, Huang teaches a distribution and temporary storage system 100 of transport units 30-36 formed by a matrix conveyor 300 (see Fig. 1), characterised in that it is a ranked aggregation via 180 of individual movement cells (C_{Mi}) of assembly 100 C₈ L66-67, a transport unit 30-36 formed by a set of parallel rollers 40, by two belts 42,43 located in the gap between the rollers 40 and arranged parallel thereto Fig. 4, set up over an elevating system which will position them (as understood the belts 42,43) below or above the rollers level 40 C₅ L39-41, whether it is intended to move the transport unit 30-36 placed on the cell perpendicular to the rollers 40 or in the parallel direction C₅ L40-45; by a set of four bumpers/guides 50,52 which can be operated via 60 individually, working as a guarantee of the correct route of a transport unit or of its stop, when its destiny is the current movement cell 30-36 C₆ L18-23 C₆ L33-35, and by an electro pneumatic system C₅ L30-35 which will make the coupling to an external motorised belts system 42,43 (known to one of ordinary skill in the art that a motor is used to operate the belt pulley system/rollers of the conveyor) which allow the

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rollers 40 and belts 42,43 movement mentioned above in the four possible orientations C5 L40-45, disposed in the form of matrix Fig. 2, and motorised from a centralised movement bus 180 and set up thereon, capable of moving the transport units 30-36 placed upon themselves to any one of its neighboring cells (to 500,110) in the matrix via 27 C9 L50-55, Huang teaches a vertical lift system 110, but Bachrach teaches being the system optionally supplemented with an overhead storage system 29 of transport units 17 formed by a set of overhead storage cells 17a,17b C4 L55-56), with a mechanic retention device 43 of the transport units 17 C7 L32-33 of the type "press and hold--press and release" via the actuator C7 L51-57, arranged in form of matrix over the CMis 45,47,49 Fig. 3 at a higher level and by a three-axis manipulator 19 that carries out the transfer of transport units 17 between the CMis 45,47,49 and between those and the overhead storage system 29. It would be obvious to one of ordinary skill to use an overhead storage system as taught by Bachrach into the invention of Huang in order to provide a continuous buffer supply of the article being transported in a reduced footprint configuration.

Claim 19, Huang teaches in that it possesses association points at 22, which constitute locations on 20 where a material lot (assembly 200) is associated to a transport unit 30-36 so that this set is recognised and treated by the system 300 until the moment in which all the programmed operations via 180 to be carried out in the work stations 160 are completed or, alternatively, there is a request to interrupt the programmed sequence via 26-27,94-99,101-108,150,165; in this case, the transport unit 30-36 will be able to

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proceed to a disassociation point where the inverse operation via 180 will take place (encountering the sensor and the control signal sent based on the locations).

Claim 20, Huang teaches in that the Centralised Movement Bus 400 being formed by a motor and by a set of belts or chains 121 arranged in form of a matrix Fig. 2 and that moves in orthogonal directions and in the four possible orientations C7 L53-56 (moves up, down, forward, and backwards).

Claim 22, Huang teaches in that the Compound Movement Cells 160 being formed by the ranked aggregation of four individual movement cells 100 associated via 30-36 to a work station of 121, in which each one of the individual cells 100 has a distinct function: E2--waiting 2--cell in which is placed a transport unit 32 whose contents have an operation programmed via 180 to be carried out in the work station to 121 C10 L20-30; E1--waiting 1--cell where the transport unit 32 coming from E2--waiting 2 is displaced to when E1 is free 34 C10 L15-20; T--work--cell where the transport unit 31 is displaced to when T 33 is free and where the operator of the work station 121 accesses the contents in order via 180 to carry out the programmed operations C10 L54-57; AT--post work--cell where the transport unit 33 is displaced to coming from T 33 when the operations programmed via 180 to be carried out therein are already completed and AT 36 is free C10 L64-67 Fig. 11.

Claim 25, Huang teaches in that the simplified Compound Movement Cells 160 being formed by a ranked aggregation of two individual movement cells 100 associated to a work station 121, having each of the individual cells a distinct function: E1--waiting 1--cell where a transport unit 30-36 is placed and whose contents have an operation

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programmed to be carried out in the work station to 121 C9 L3-7, T--work--cell where the transport unit 30-36 is displaced to when T (30-36 to shift direction) is free and where the operator of the work station 121 via 180 accesses the contents in order to carry out the operations programmed to be carried out therein (one example C10 L15-25).

Claim 29, Huang does not teach as Bachrach teaches by the overhead storage cell 29 being formed by a rectangular structure with a mechanic retention device 43 of the type "press and hold--press and release" the actuator C7 L51-57, which allows to hold a transport unit 45,47,49 when the same is elevated from an inferior level via 15,19 Fig. 1A. It would be obvious to one of ordinary skill to use an overhead storage cell formed by a rectangular structure as taught by Bachrach into the invention of Huang in order to provide a storage system in a reduced footprint configuration.

Claim 32, Huang teaches by the fact that it has a programme associated, based on a computer and/or aprogrammable logic controller 180 responsible for managing, monitoring, scheduling and balancing the system 100,200,300,400,500, taking into consideration the information of work to be carried out in the contents of each transport unit 30-36, namely in the operating routing, times, quantities and identification of article, being this information obtained in an association operation of the transport unit 30-36 to its contents C8 L66-67; C9 L1-12 Fig. 11.

Conclusion

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to KAVEL P. SINGH whose telephone number is (571)272-2362. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene Crawford can be reached on (571) 272-6911. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kavel P Singh/
Examiner, Art Unit 3651

KPS